

CASE No. 7

REQUEST FOR REVISION OF CERTAIN DEFINITIONS IN THE 1961 CODE.
(Z.N.(S.) 1552)

By Hobart M. Smith (*Department of Zoology and Museum of Natural History, University of Illinois, Urbana, Illinois, U.S.A.*)

The inclusion of a glossary with concise definitions of terms used in the 1961 Code was a very useful innovation that surely must be welcomed by most taxonomists. Certain definitions are, however, in need of rectification or reconsideration, and some terms could well be added. Suggestions for such modifications are here presented for consideration by the Commission.

The Units of Classification. The definitions given of family, subfamily, genus, subgenus, species, and subspecies are in part highly dubious. Each is defined in two ways: (1) as a category of a given level, and (2) as a taxon of that category. In reality only the second definition is valid at least on the basis of usage; certainly reference to, for example, generic or specific categories implies only that these categories are composed of units of generic or specific rank—of genera or species. The hierarchy of units of classification—the Phylum, Class, Order, etc.—as commonly explained does indeed list these units as though they were the categories themselves, but it is surely always implicit that in reality these are merely the names applied to the units comprising the categories. Reference to “*the genus*” or “*the species*” is surely to the *concept of the units* known as genera or species, not to the category. There are categories comprised respectively of families, subfamilies, genera, subgenera, species and subspecies, to be sure, but they are not thereby known as the family, subfamily, etc.

Binomial Nomenclature. Although adopted officially by the 1961 Code, the term “binominal nomenclature” seems quite inappropriate for the system of species-group nomenclature—that is, Linnaean nomenclature—that has been practiced for 200 years in zoology. Trinominal nomenclature, commonly practiced as a part of modern taxonomy and certainly covered by the official Code for more than fifty years, is by etymological indication not included in “binominal nomenclature”. The impropriety of use of the latter term in the general sense of the 1961 Code stems from the perfectly acceptable restriction there adopted of the terms “binomen” and “trinomen” to be the two-term and three-term names for species and subspecies respectively. The system is, therefore, in reality no more “binominal” in its entirety than it is “trinominal”. The long accepted term “binomial nomenclature” is far more preferable in the inclusive sense since (1) it has a 200-year history of usage in that sense in very extensive popular as well as scientific literature; (2) it is still used by influential taxonomists, as well as popular textbooks, in that sense; (3) it is etymologically and conceptually correct; and (4) there is no acceptable rationale

for refusal to admit the existence of the established practice or for the attempt to impose a different practice. The binomial system, as generally understood, is a two-rank system of names, and it can therefore include any number of actual names, from binominals to quadrimominals or more; by common understanding established over centuries of usage "binominal nomenclature" has acquired a clear implication of "two-rank" nomenclature (i.e., the genus-group name or names, combined with the species-group name or names). Attempts to impose this meaning upon "binominal" makes that word less useful in its restricted sense (as of the 1961 Code), and more ambiguous in any given context. It is not in harmony with the aims of such a precisely defined system of nomenclature as this deliberately to impose two meanings on one word, especially when established practice has already differentiated separate terms for the two meanings.

Several years ago I submitted a similar request for reconsideration of "binominal nomenclature" in the sense here recommended, but as published (1958, *Bull. zool. Nomencl.* 15 : 1097-9) it took the form of a request for use of "binary nomenclature" in the broad sense of the presently officially adopted "binominal nomenclature". Clearly the comments laying that particular proposal to rest (1958, *Bull. zool. Nomencl.* 15 : 1101), referring especially to the able demonstration by Hemming (1950, *Bull. zool. Nomencl.* 5 152-167) of the complete synonymy of "binary" and "binominal", are quite valid. No brief can now be held for a distinction to those two terms; the Commission's choice of "binominal" in preference to "binary" is incontrovertibly sound and "binary" may be considered as permanently eliminated from consideration.

On the contrary, the present proposition is that the binominal system consistently applied by Linnaeus is in fact an aspect of a grander concept of two-rank nomenclature—binomial nomenclature—recognized by an increasingly large proportion of taxonomists and as universally practiced in modern taxonomy. Modern binomial nomenclature is improved and refined, as compared with the strictly binominal nomenclature of Linnaeus, in much the same way that the modern understanding of evolution is improved and refined as compared with evolution as understood by Darwin. Yet the basic evolutionary concept is of Darwin, and in the same way the basic binomial concept of nomenclature stems from Linnaeus, even though he did not practice anything more sophisticated than a binominal type of binomial nomenclature. It is important to recognize that the two different ideas, even though basically related, are involved, and that they are best conveyed by the terms "binomial" and "binominal".

Trivial Name. Another definition that needs rectification is that of "trivial name". As abundantly used in modern nomenclature of the past twenty years or so, the trivial name is not only the specific name (*sensu* Code 1961), but also the subspecific name; the definition given in the 1961 Code limits it to the specific name. The useful characteristic of the term "trivial name" is that it is *not* limited to specific or to subspecific implications. In many situations of discussion a given trivial name, although certainly originally proposed as either a specific or a subspecific name, cannot in accuracy be referred to categorically as one or the other, at least when the population

to which the name is attached is of uncertain relationship or when relationship should not enter into the particular consideration at hand.

Reconsideration of definition of "trivial" names was proposed in connection with the London Meetings (1958, *Bull. zool. Nomencl.* 15 : 1097-9), and received a commentary of rejection by Melville (1958, *Bull. zool. Nomencl.* 15 : 1100-3), who referred to decisions of the Paris Congress (1948, *Bull. zool. Nomencl.* 4 : 128) that "trivial" must always be preceded by the adjectives "specific" or "subspecific". This in reality means that without such modifiers the term "trivial" refers to either or both categories, without limitation. This is exactly the sense for which the term is useful. Modified by "specific" or "subspecific", the term is no better than or different in meaning from "specific name" or "subspecific name", and naturally there is in this sense nothing to recommend its usage. It is in the *unspecified* sense that it is useful. Certainly the alternative suggested by Melville of "species-group name" in this context is far less desirable because of its length.

It is quite true that the term "trivial" (1) has been defined in different ways (*s.s.* and *s.l.*), and (2) that it has confusing meanings of "trifling" and "vernacular" in some contexts (Mayr, Linsley and Usinger, 1953, *Methods and principles of systematic zoology* : 246-8). These facts do detract from the value of the word, in the sense here intended. The dilemma could be readily solved by either of two solutions. For one, the Commission could arbitrarily limit the taxonomic meaning of "trivial" to the broad sense here proposed; I am confident there would be relatively little objection to the course. Alternatively the Commission could devise or adopt some other equally desirable term lacking the shortcomings of the term "trivial". Unfortunately lengthy substitutes such as "species-group name" are impractical, and no other term equally as brief as "trivial" is now in common usage. Regardless of the solution adopted, *some* term for names of infrageneric ranks of unspecified levels is essential, and the Commission should designate one. If the term "trivial" cannot be accepted, then some alternative such as "discriminative" or "differential" name, or "cognomen" or "prenomen" (see Mayr, Linsley and Usinger, *op. cit.* : 247) is in order. None of these substitutes actually can be readily assimilated—"as consistent with stability of nomenclature"—as the arbitrary restriction of the taxonomic definition of "trivial name".

Nominal. Finally, the 1961 Code definition of "nominal" as given in reference to family, genus, and species, is clearly contrary to established usage. A nominal entity, as erroneously defined in the Code, is a *named* entity—the given entity itself, which bears a name. On the contrary "nominal" has almost invariably been used in the sense of the *name* itself, not the object or entity named. The nominal genus *Musca* is merely the name, not the "named genus". It would be a distinct disservice to introduce a different usage, as of the 1961 Code, for this previously well-understood and soundly rational usage. The concept of "named" entity is adequately carried by the commonly accepted term "taxonomic": a taxonomic species is an acceptably (in taxonomy) named species (as opposed to species which have not been named).

Additional Terms. A number of other terms commonly used in taxonomy would be welcome additions for the glossary. Examples are *species name*,

subspecies name, hybrid, intergrade, nec, nobis, auctorum, sensu lato, sensu stricto, pro parte, nomenclature, nomenclatural, nomenclator and nomenclatorial ; furthermore proper abbreviations for some of these terms (e.g., *nob.*, *auct.*, *s.l.*, *s.s.*, *p.p.*) as well as for the plural of species and subspecies (*spp.*, *sub spp.*) should be specified. The term *nomen dubium* is also not adequately defined (see discussion in a separate petition, *Bull. zool. Nomencl.* 20 : 44).